

GENERAL UTILITY NOTES

- SUPPLY AND INSTALL ALL MATERIALS AND METHODS FOR WATERLINES, SANITARY SEWERS AND STORM DRAINAGE IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS OF WVA AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS", LATEST EDITION.
- OBTAIN ALL REQUIRED PERMITS AND NOTIFY APPROPRIATE OFFICIALS 48 HOURS PRIOR TO COMMENCEMENT OF WORK. OBTAIN INFORMATION FROM WVA CONCERNING PERMITS AND CONNECTIONS TO EXISTING LINES.
- ALL WORK SHALL BE SUBJECT TO INSPECTION BY ROANOKE COUNTY. NOTIFY APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF WORK.
- SITE SHALL BE TO SUB GRADE PRIOR TO INSTALLATION OF UTILITIES. ALL UTILITIES SHALL BE IN PLACE PRIOR TO PLACEMENT OF PAVEMENT BASE MATERIAL.
- USE SELECT MATERIAL FREE FROM FROST, LARGE CLODS, STONES, AND DEBRIS FOR BACK FILL FROM THE BOTTOM OF THE TRENCH TO TWELVE (12) INCHES ABOVE THE PIPE.
- MINIMIZE ANY DISTURBANCE TO EXISTING WATER SERVICE SEWER LINES OR ANY OTHER UTILITY DURING CONSTRUCTION AND PROVIDE QUALITY WORKMANSHIP.
- MAKE ALL PIPE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE COUNTY'S SPECIFICATIONS. MAKE JOINTS BETWEEN DIFFERENT PIPE MATERIALS WITH STANDARD FITTINGS MANUFACTURED FOR THE PURPOSE.
- MAINTAIN ALL WATER LINES AT TEN (10) FEET HORIZONTAL SEPARATION FROM SEWER LINES AND MANHOLES; MEASURE THE DISTANCE EDGE-TO-EDGE. WHEN LOCAL CONDITIONS PREVENT THE DESIRED HORIZONTAL SEPARATION, THE WATERLINE MAY BE LAID CLOSER TO THE SEWER OR MANHOLE PROVIDED THAT THE BOTTOM OF THE WATERLINE SHALL BE AT LEAST EIGHTEEN (18) INCHES ABOVE THE TOP OF THE SEWER. WHERE THIS VERTICAL SEPARATION CANNOT BE OBTAINED, CONSTRUCT THE SEWER OF AWWA APPROVED WATER PIPE AND PRESSURE TREAT IN PLACE PRIOR TO BACKFILLING. THE SEWER MANHOLE SHALL BE OF WATERTIGHT CONSTRUCTION TESTED IN PLACE.
- SEWER AND WATER TAPS SHALL BE LOCATED BY THE CONTRACTOR AND MADE BY THE WESTERN VIRGINIA WATER AUTHORITY.
- LOCATE AND UNCOVER VALVE VAULTS AND MANHOLES AFTER PAVING AND ADJUST TO FINAL GRADE, IF NECESSARY.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS WHERE UTILITIES ENTER THE BUILDING.
- VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF:

ANY LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS.

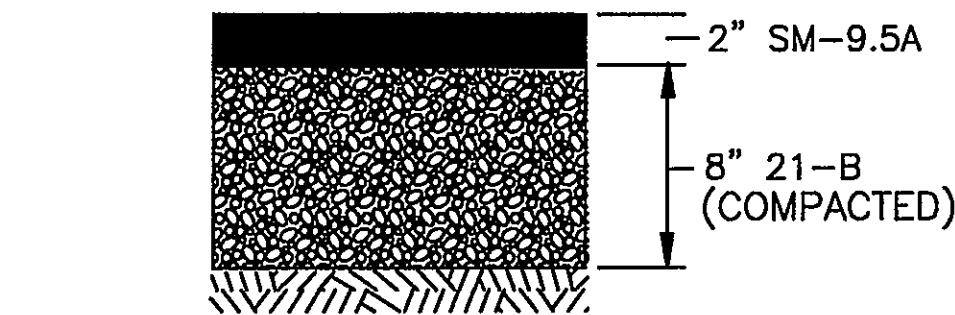
IF THERE APPEARS TO BE ANY CONFLICT.

UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS.

TO MISS UTILITIES, CALL "MISS UTILITY" OF VIRGINIA (TOLL FREE 1-800-552-7001) 48 HOURS BEFORE YOU DIG. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF THIS WORK. EXISTING UTILITY LOCATIONS SHOWN ARE A RESULT OF A COMBINATION OF EXISTING INFORMATION AND FIELD LOCATION OF SURFACE FEATURES. LOCATIONS ARE APPROXIMATE.
- REPAIR ALL DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF THIS WORK AT NO ADDITIONAL COST TO OWNER.
- PROVIDE A CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL PIPE. REMOVE STONES AND ROCKS FOUND IN THE TRENCH FOR A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE AND TAMP SELECT FILL BEDDING PROVIDED. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, BACK FILL THE TRENCH WITH SELECT MATERIAL, THOROUGHLY COMPACT TO 90% (95% UNDER PAVEMENT OR CONCRETE SLAB) OF THE STANDARD PROCTOR (ASTM D-698) USING CARE NOT TO DAMAGE THE PIPE. USE VDOT STANDARD PB-1 TRENCH FOR STORM SEWER AND UB-1 FOR SANITARY SEWER AND WATER.

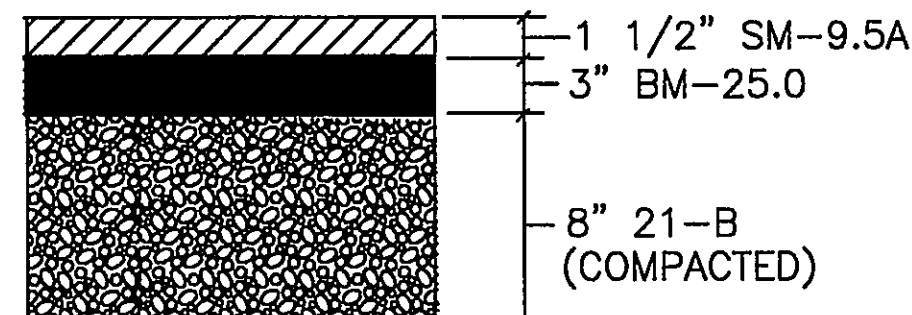
(1) BACK FILL NO TRENCH UNTIL AUTHORIZED BY THE COUNTY/WVA. MATERIALS USED FOR BACK FILL FROM THE BOTTOM OF THE TRENCH TO TOP OF THE PIPE SHALL BE CRUSHER RUN, OR APPROVED EQUAL MATERIAL THOROUGHLY AND CAREFULLY COMPACT THE BACK FILL MATERIAL.

(2) COMPACT BACK FILL BY MECHANICAL TAMPING THROUGHOUT THE DEPTH OF THE TRENCH TO INSURE A SUITABLE SUBBASE ACCEPTABLE TO THE ROAD ENGINEER. IF THE MATERIAL TAKEN FROM THE DITCH IS NOT SUITABLE FOR BACK FILLING, REMOVE IT AND USE AN ACCEPTABLE MATERIAL FOR BACK FILLING THE TRENCH.
- IN AREAS OF WATER LINE CONSTRUCTION, GRADES SHALL BE WITHIN SIX (6) INCHES OF FINISHED SUB GRADE PRIOR TO THE COMMENCEMENT OF THIS WORK.
- MINIMUM COVER OVER WATER AND SANITARY SEWER LINES SHALL BE THREE (3) FEET.
- THE WESTERN VIRGINIA WATER AUTHORITY SHALL MAKE ALL CONNECTIONS TO EXISTING WATER MAINS.
- THE CONTRACTOR SHALL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.
- PIPES AND FITTINGS SHALL BE POLYVINYL.
- CONNECT PIPE TO MANHOLES THROUGH PRE CAST OPENINGS AND JOIN WITH EITHER A FLEXIBLE BOOT ADAPTER OR A PIPE SEAL GASKET.
- MAKE RESIDENTIAL SERVICE CONNECTIONS WITH A FOUR (4) INCH PIPE THROUGH A WYE OR TEE-WYE BRANCH FITTING AND SHALL BE INSTALLED ON A MINIMUM GRADE OF ONE-QUARTER (1/4") INCH PER ONE (1) FOOT FROM THE SEWER PIPE OR MANHOLE TO THE PROPERTY OR EASEMENT LINE WHERE A CLEANOUT SHALL BE PLACED AND THE SERVICE LATERAL PLUGGED / CAPPED UNTIL EXTENSION.
- FIELD MARK FUTURE SERVICE CONNECTIONS BY A TREATED, SOLID WOODED (2"x4") MARKER THREE (3) FEET LONG SET VERTICALLY PLUMB WITH THE END OF THE CAPPED EXTENSION. PAINT THE TOPS OF THE MARKERS YELLOW AND SET FLUSH WITH THE FINISHED GRADE. SHOW THE LOCATION AND INVERT DEPTH OF THE SERVICE CONNECTION ON THE AS-BUILT PLANS.
- CLEAN OUT THE EXISTING STORM SEWER SYSTEMS AND DITCHES SHOULD THEY BECOME SILTED OR BLOCKED IN ANY WAY AS A RESULT OF THIS WORK AT NO ADDITIONAL COST TO THE OWNER.



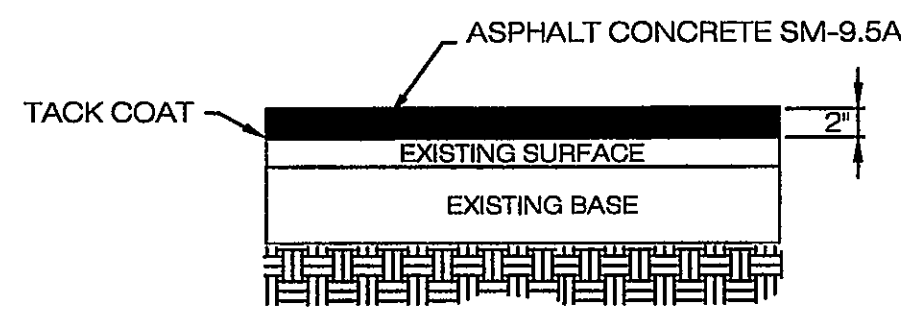
STANDARD PVMT SECTION

NO SCALE



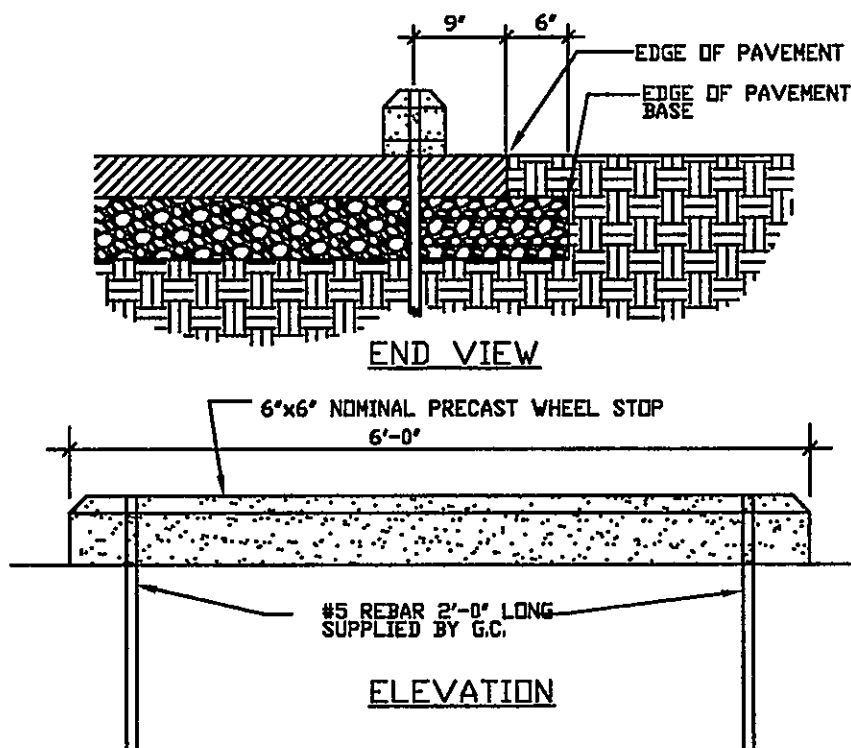
HEAVY DUTY PVMT SECTION

NO SCALE



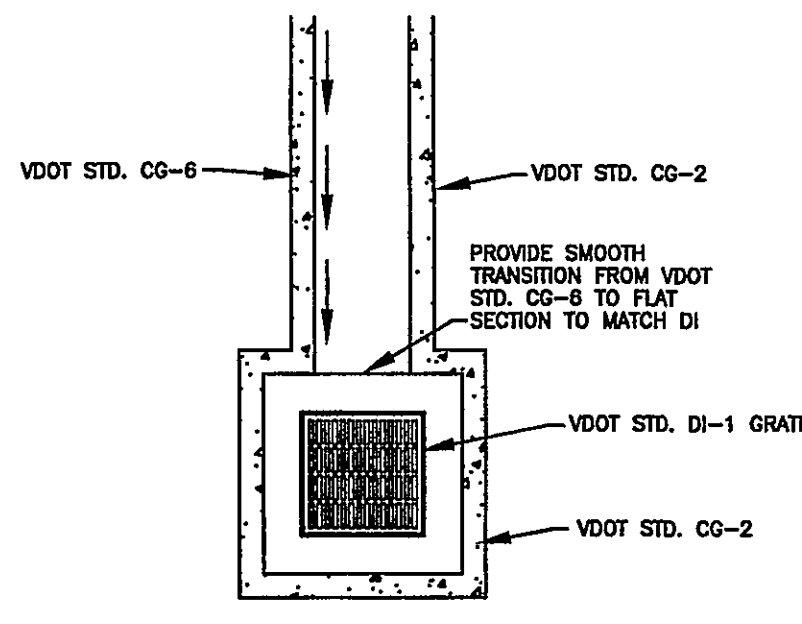
OVERLAY PAVEMENT SECTION

N.T.S.



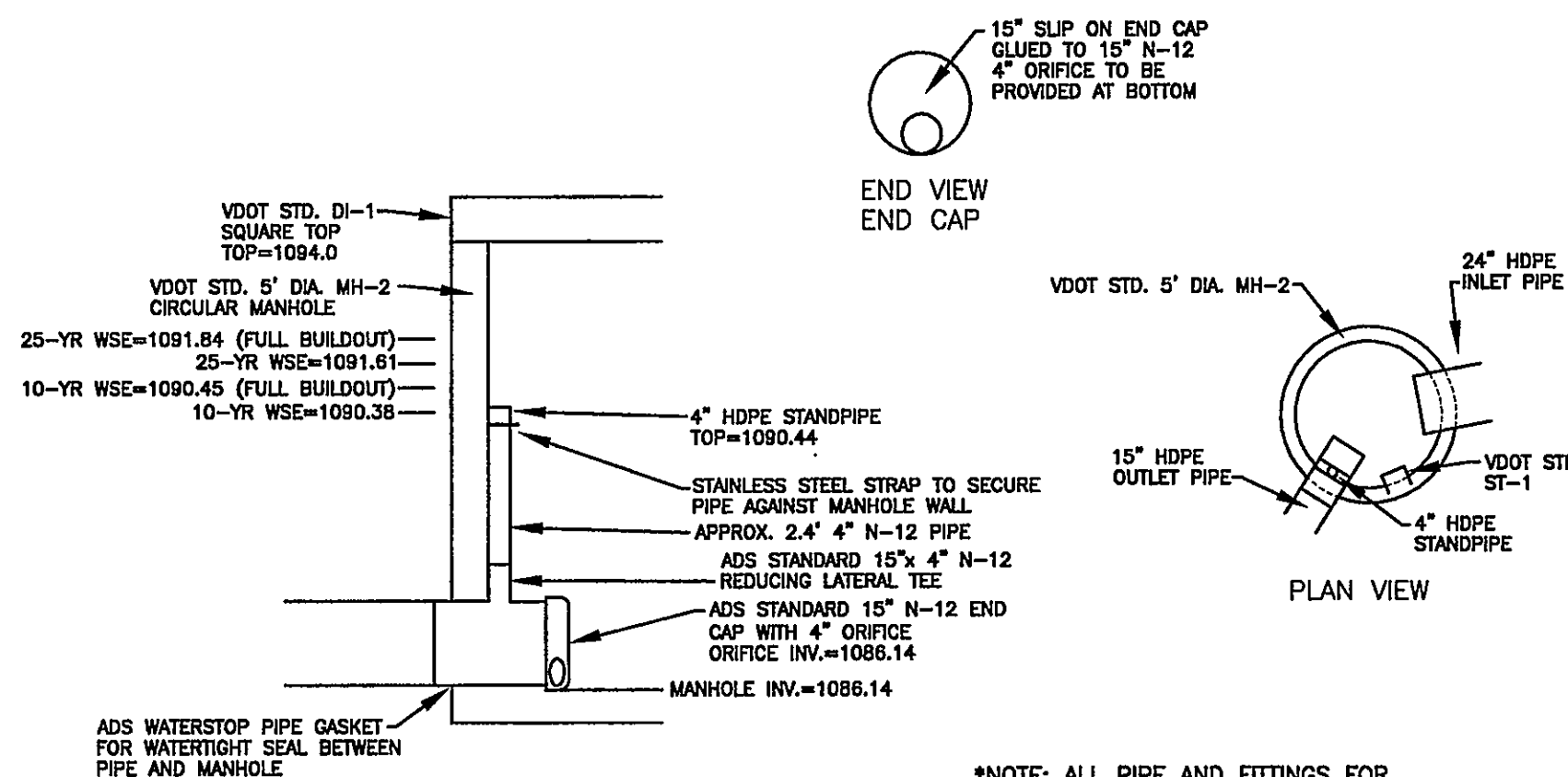
CONCRETE BUMPER BLOCK DETAIL

NO SCALE



CONCRETE FLUME DETAIL

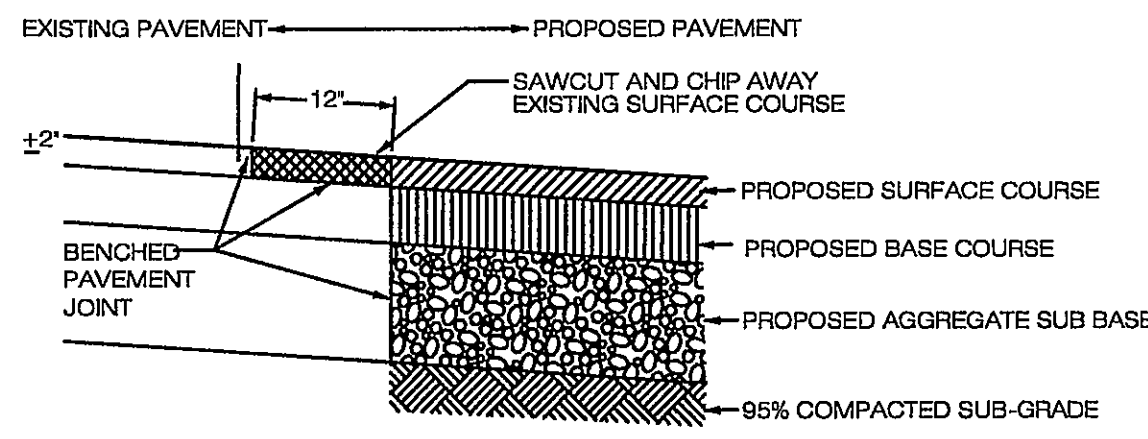
NO SCALE



MANHOLE #3 DETAIL

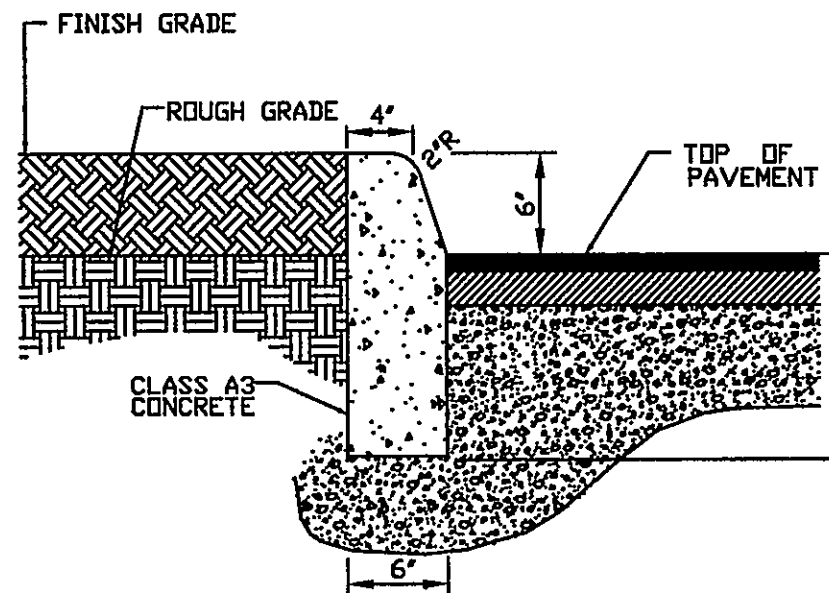
NO SCALE

*NOTE: ALL PIPE AND FITTINGS FOR STORMWATER MANAGEMENT SYSTEM SHALL BE ADS N-12 WT OR APPROVED EQUAL AND SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS TO PROVIDE WATERTIGHT SEAL



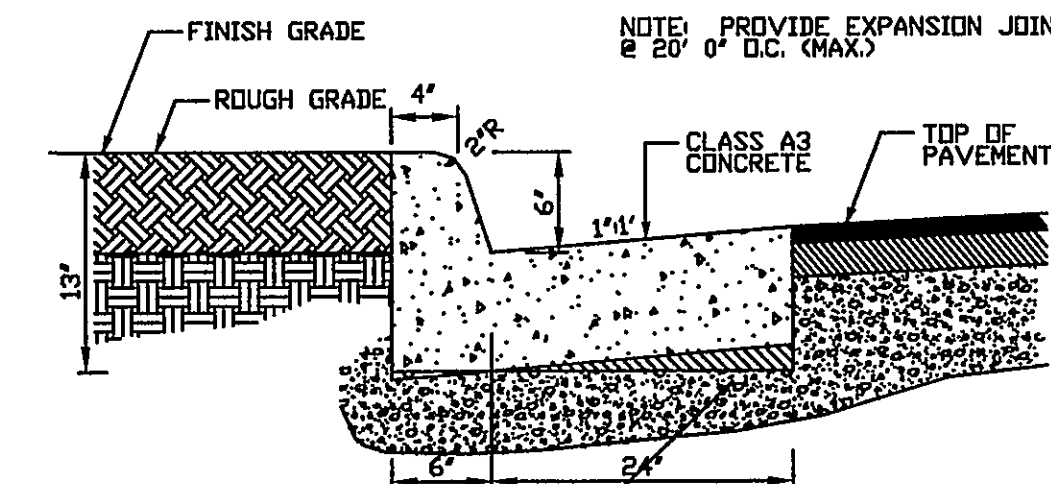
PAVEMENT JOINT DETAIL

N.T.S.



CG-2 DETAIL TYP.

N.T.S.



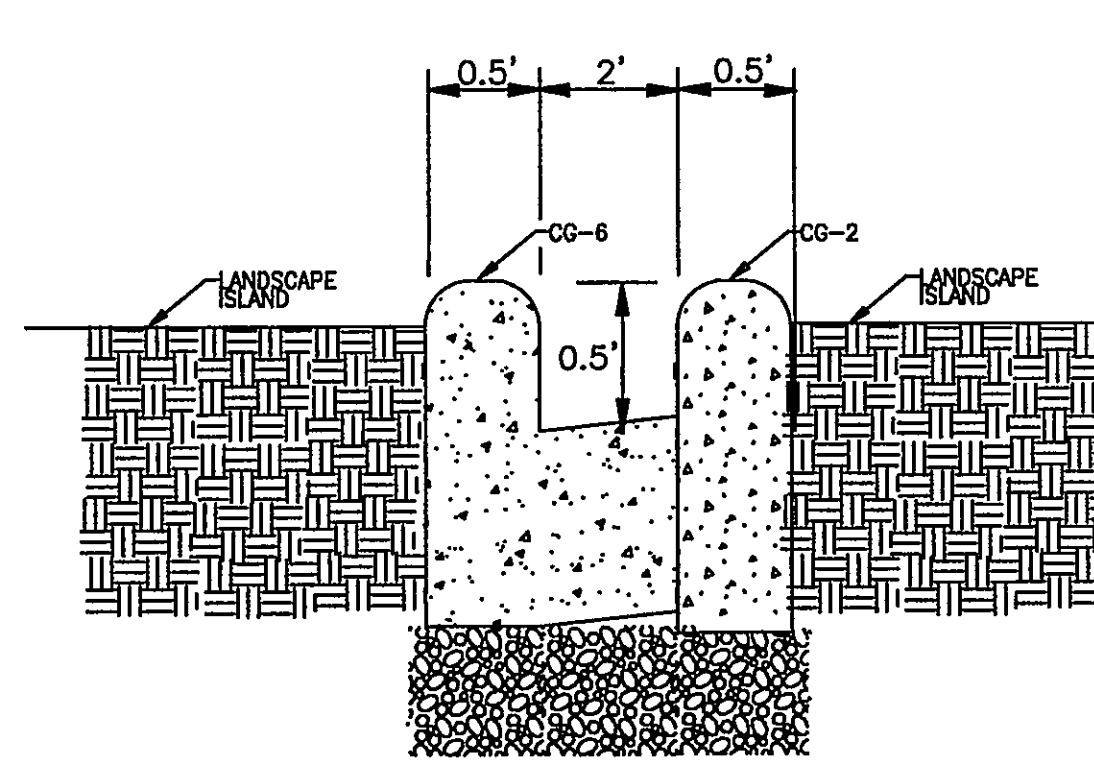
THE BOTTOM OF THE CURB & GUTTER MAY BE CONSTRUCTED PARALLEL TO THE SLOPE OF THE SUBSURFACE COURSE PROVIDED A MINIMUM DEPTH OF 7" IS MAINTAINED.

NOTE: PROVIDE EXPANSION JOINTS @ 20' O.C. MAX.

NOTE: G.C. SHALL BE RESPONSIBLE FOR OBTAINING ADEQUATE SUB-GRADE COMPACTION.

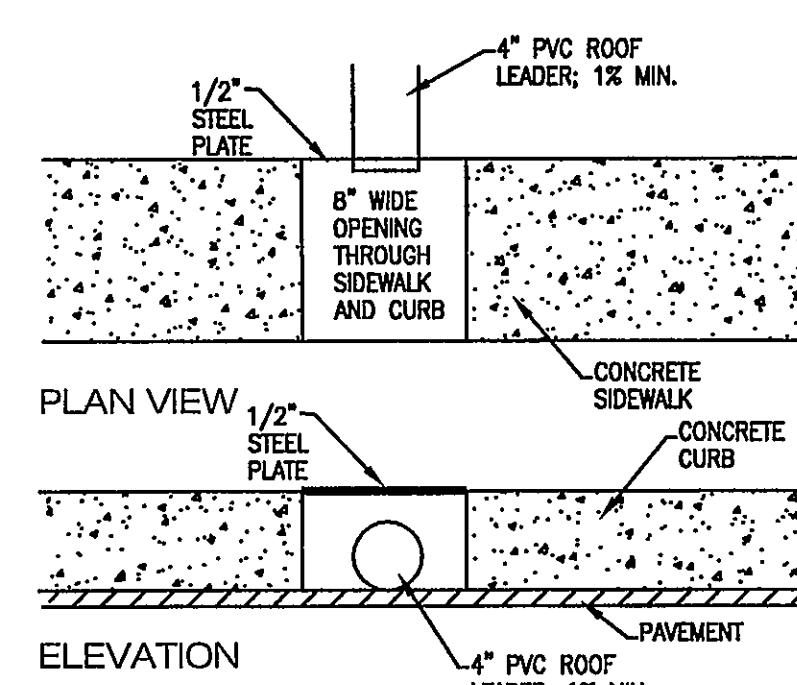
CG-6 DETAIL TYP.

N.T.S.



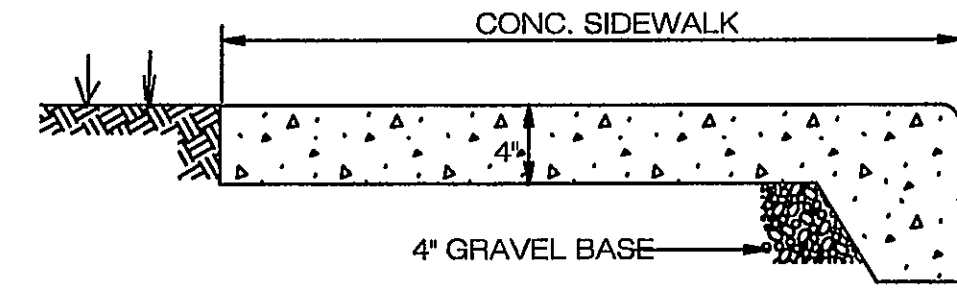
CURB CUT DETAIL

NO SCALE



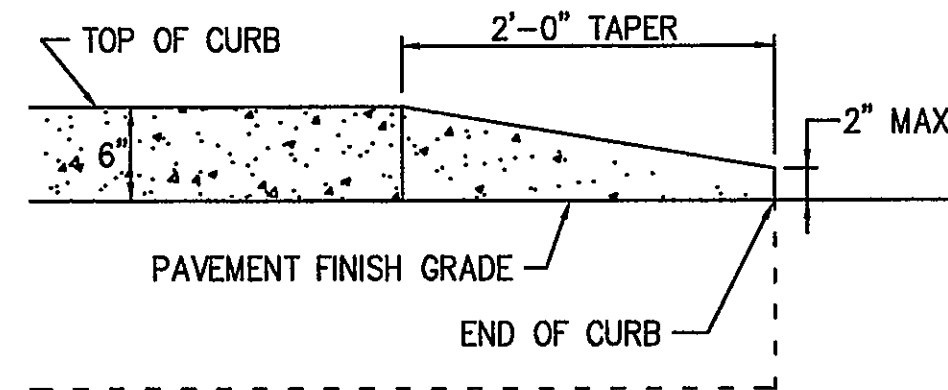
ROOF LEADER/SIDEWALK

NO SCALE



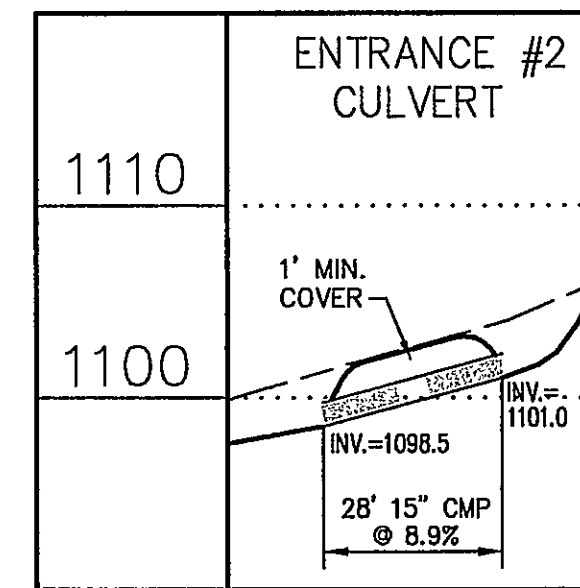
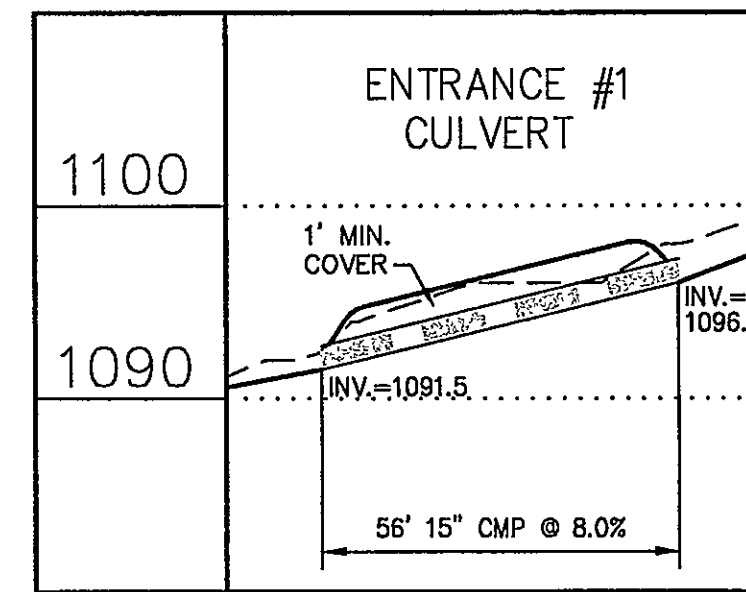
TURNED DOWN SIDEWALK DETAIL

NO SCALE



CURB TAPER DETAIL - SECTION

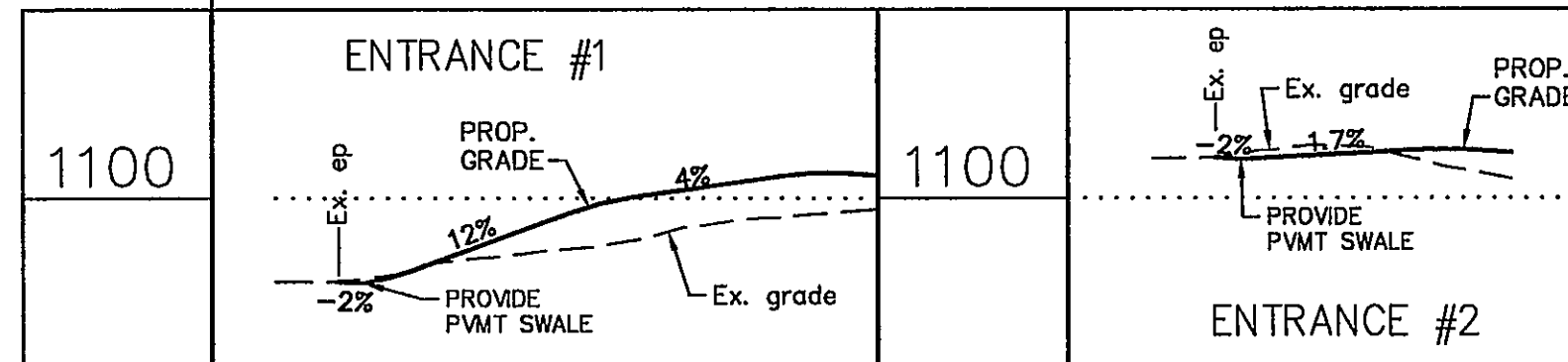
NO SCALE



PROFILE SCALES

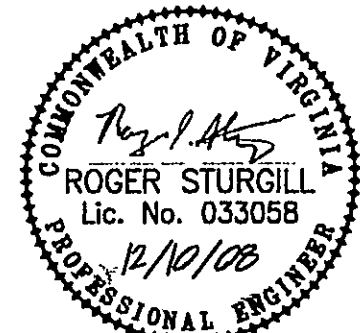
HORZ. SCALE: 1"=30'
VERT. SCALE: 1"=10'

ENTRANCE PROFILES



PROFILE SCALES

HORZ. SCALE: 1"=30'
VERT. SCALE: 1"=10'



REFLECTING TOMORROW
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ENGINEERS SURVEYORS

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Verona, Virginia 24482
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FAX: 540/248-3221

ROANOKE ORAL SURGERY

SITE DETAILS

HOLLIS DISTRICT
ROANOKE COUNTY, VIRGINIA

DRAWN BY: CPB
DESIGNED BY: CPB
CHECKED BY: SMH
DATE: 10-14-2008

REVISIONS:
11-19-2008
12-10-2008

SCALE: N/A
SHEET NO.

C-8

JOB NO.
R0800339.00